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APPLICATION NO. 08/042,827	FILING DATE 12/17/97	FIRST NAMED INVENTOR LEUNG	ATTORNEY DOCKET NO. 077319/0125
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18M2/1212

EXAMINER
PROUTY, R

ART UNIT
1814

PAPER NUMBER

DATE MAILED: 12/12/97

Pl ase find below and/or attached an Office communication concerning this application or
pr ceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/842,827

Applicant(s)
Leung et al.

Examiner
Rebecca Prouty

Group Art Unit
1814



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-12 is/are pending in the application.

Of the above, claim(s) 1, 3, and 4 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 7 and 9 is/are rejected.

☒ Claim(s) 2, 5, 6, 8, and 10-12 is/are objected to.

☒ Claims 1-12 are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 3, and 4, drawn to human phosphatidic acid phosphatase (PAP) DNA and expression thereof, classified in class 435, subclass 196.
- II. Claim 2 and 5-12, drawn to human PAP and methods of use thereof, classified in class 435, subclass 41.

The inventions are distinct, each from the other because of the following reasons:

The DNA of Group I and the proteins of Group II are patentably distinct compounds because they are chemically different, the DNA has other utility besides encoding the proteins such as a hybridization probe and the proteins can be made by another method such as isolation from natural sources or chemical synthesis.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Stephen Bent on 10/30/97 a provisional election was made with traverse to prosecute the invention of Group II, claims 2 and 5-12. Affirmation of this election must be made by applicant in responding to this Office action. Claims 1, 3, and 4 are

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withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Boder et al.

Boder et al. teach the dephosphorylation of phosphatidic acid using human neutrophil plasma membrane PAP.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 5, 6, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai et al. in view of any one of GENBANK entries AA040858, W04968 or H68363.

Kai et al. teach the isolation of porcine PAP and the isolation of and expression of the mouse PAP gene.

Each of GENBANK entries W04968, H68363, and AA040858 disclose a fragment of human cDNA which comprises a sequence highly homologous to a portion of the sequence of the mouse PAP gene disclosed by Kai et al. As such it would have been obvious to one of ordinary skill in the art that there is a human homolog of the PAP of Kai et al. which is highly homologous to the mouse and porcine proteins.

Therefore, as Kai et al. teach that type 2 PAPs such as that encoded by the disclosed gene play a role in the regulation of signal transduction by phospholipase D, it would have been obvious to one of ordinary skill in the art to isolate the human

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homolog of the porcine and mouse PAPs disclosed and to use this enzyme of the dephosphorylation of phosphatidic acid and the regulation of signal transduction.

Claims 5, 8, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over GENBANK entry U79294 in view of Kai et al.

GENBANK entry U79294 teaches a cDNA sequence from a human brain library. This cDNA is identical to bases 225-1362 of SEQ ID NO:6 (except for a single base deletion which is virtually certainly a sequencing error and not an actual difference in nucleotide sequence) encompassing all of the coding sequence of SEQ ID NO:5. This cDNA also exhibits 62% sequence identity with the mouse cDNA encoding PAP of Kai et al.

Kai et al. is discussed above.

In view of the sequence identity between the cDNA of GENBANK entry U79294 and the mouse PAP cDNA of Kai et al, it would have been obvious to one of ordinary skill in the art that the cDNA disclosed by GENBANK entry U79294 encodes a human PAP. Therefore, it would have been obvious to one of ordinary skill in the art to insert the cDNA of GENBANK entry U79294 into an expression vector, express the encoded protein and to use the protein produced for the dephosphorylation of phosphatidic acid and the regulation of signal transduction.

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Claims 7 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach or suggest a human PAP enzyme having the sequence of SEQ ID NOS: 4 or 8.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca Prouty, Ph.D. whose telephone number is (703) 308-4000. The examiner can normally be reached on Monday-Friday from 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Wax, can be reached at (703) 308-4216. The fax phone number for this Group is (703) 308-4242.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to **robert.wax@uspto.gov**.

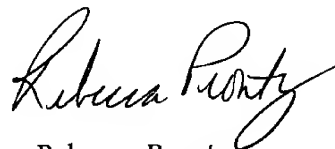
All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark Office on February 25, 1997 at 1195 OG 89.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

A handwritten signature in cursive script, appearing to read "Rebecca Prouty".

Rebecca Prouty
Primary Examiner
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